

**Graphical Area Forecast (GFA)**  
**Experimental Graphical Airman's Meteorological Advisory (G-AIRMET)**  
**Product Description Document (PDD)**  
**June 28, 2007**

**Part I – Mission Connection**

The Aviation Weather Center issues Airman's Meteorological Advisories (AIRMETs) in support of the NOAA goal to support the Nation's commerce with information for the safe, efficient, and environmentally sound transportation (NOAA, 2005). The NWS develops and applies new technologies and methods to increase the capabilities, efficiencies, and accuracies of transportation-related products and services in order to promote the safe, secure, and seamless movement of goods and people in the U.S. transportation system (NWS, 2005b).

Escalating external demands continue to drive NOAA to improve the accuracy and frequency of its products and services geared toward safe and efficient movement of people and commerce in the air (NOAA, 2007).

The Federal Aviation Administration (FAA) and National Weather Service are responding to a call from the users of the National Aerospace System for better weather information by collaborating with industry to develop an enroute, aviation weather product called the Graphical Area Forecast (GFA) (NWS, 2007). The graphical AIRMET (G-AIRMET) is the first part of a phased approach towards implementation of the GFA.

- a. Product Description – The experimental graphical Airman's Meteorological Advisory (G-AIRMET) is a BUFR-formatted time-series depiction of aviation hazards occurring with occasional or greater frequency throughout the conterminous U.S. and adjacent coastal waters (NWS, 2005a). The aviation hazards depicted in the experimental G-AIRMET (FAA, 2006) are:
  - (1) Areas of surface visibility below three (3) statute miles, including the weather causing the visibility restriction.
  - (2) Areas of cloud ceilings with bases less than 1000 feet above ground level (AGL).
  - (2) Areas of widespread mountain obscuration where Visual Meteorological Conditions (VMC) cannot be maintained, including the weather causing the obscuration.
- b. Purpose – The experimental G-AIRMET:
  - (1) Demonstrates a graphical depiction of a BUFR-encoded product currently available only in text format.
  - (2) Displays instrument flight rules and mountain obscuration aviation hazards with better time and spatial resolution than the current text format allows.

- (3) Allows other government agencies (e.g., the Federal Aviation Administration) and user groups access to data with which usability, verification, and safety analyses can be conducted.
- (4) Provides users with data for use in developing products and displays.
- (5) Allows testing of internal production processes at the Aviation Weather Center and determine additional software requirements.

The experimental G-AIRMET will be produced and made available for review for the period July 2, 2007 through August 31, 2007, after which experimental production will cease. Operational production of G-AIRMET is dependent upon regulatory approval from the Federal Aviation Administration.

- c. Audience – Primarily intended for end-users directly related to aviation flight planning and safety of flight, including pilots and personnel who provide weather information to pilots.
- d. Presentation Format – Web graphic consisting of base map with choice of product overlays and forecast times, viewable at the following URL:

<http://aviationweather.gov/testbed/gfa/>

This information can also be downloaded in BUFR format.

- e. Feedback Method – User feedback is a critical part of the NWS assessment of experimental products. Please submit comments and feedback on the experimental G-AIRMET web interface and on the BUFR-encoded forecast at the following URL:

<http://www.weather.gov/survey/nws-survey.php?code=g-airmet>

Additional comments may be provided to:

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Aviation Weather Center  
7220 NW 101<sup>st</sup> Terrace  
Kansas City, MO 64153  
Phone: 816-584-7239  
E-mail: [Ronald.Olson@noaa.gov](mailto:Ronald.Olson@noaa.gov)

Experimental feedback period: July 1, 2007 through August 31, 2007.

## **Part II – Technical Description**

- a. Format and Science Basis – BUFR-encoded data is generated from graphical objects depicting areas and attributes of AIRMET hazards. These objects are produced by forecasters at the Aviation Weather Center. G-AIRMET web graphics are displayable in modern browsers (e.g., Internet Explorer 7.0, Mozilla SeaMonkey 1.1.2, Firefox, 2.0) without the use of add-on software and are generated from the BUFR-encoded data. The website uses scripts to display the hazards and match each graphic to the appropriate valid time.
- b. Availability – The experimental G-AIRMET is issued three times per day with advisories valid out to 12 hours with a time resolution of no more than three hours.
- c. Additional information
- (1) Click on the “Ceiling & Visibility” and “Mountain Obscuration” buttons to see web graphics of experimental G-AIRMET.

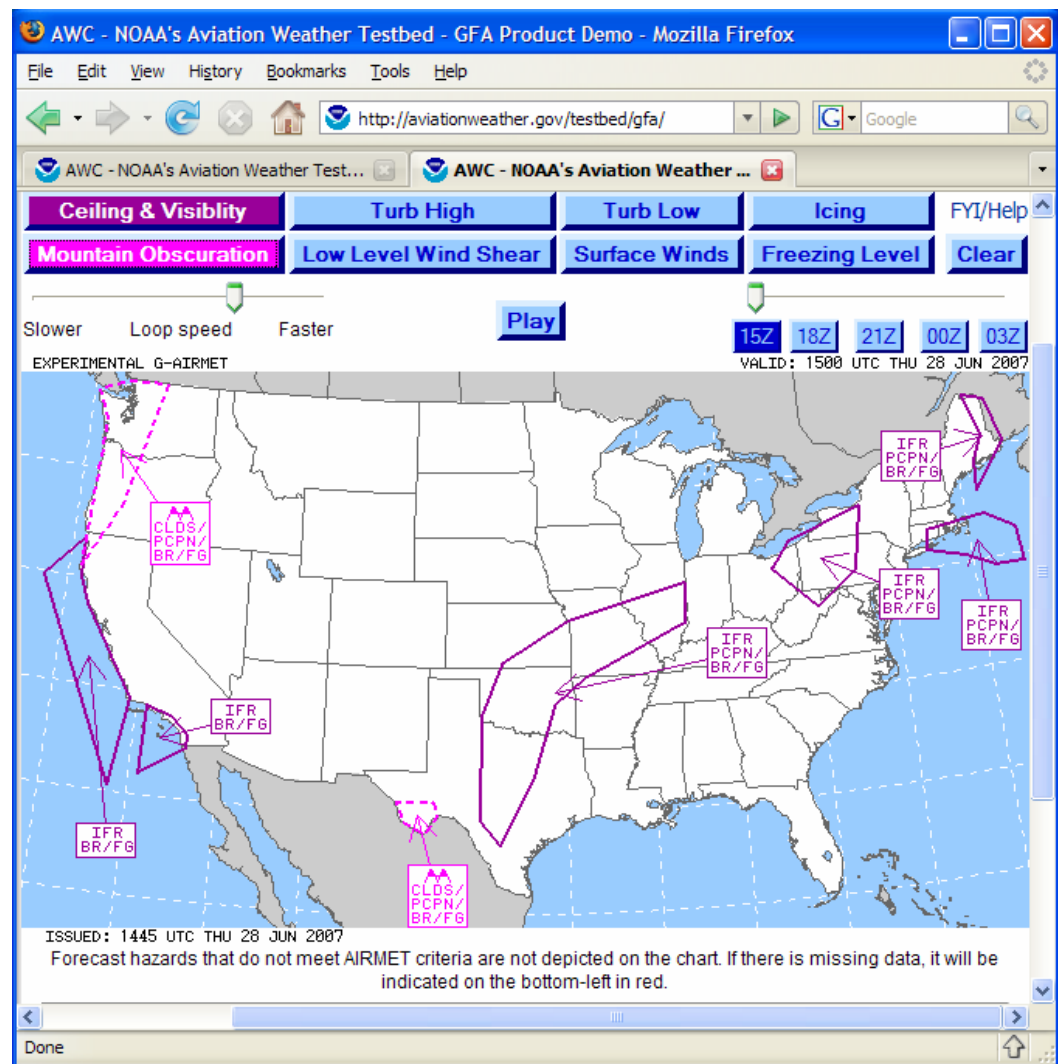


Figure 1. Screen capture of Graphical AIRMET experimental demonstration display

(2) Contact for access to BUFR data:

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Phone: 816-584-7241  
E-mail: [Marc.Singer@noaa.gov](mailto:Marc.Singer@noaa.gov)

(3) References

Federal Aviation Administration, 2006, March 14: Final Requirements Statement for a Text AIRMET and a Graphical AIRMET (G-AIRMET). In communication dated May 12, 2006, to D. McCarthy, Director, Office of Services, National Weather Service.

National Oceanic and Atmospheric Administration, 2005: *New Priorities for the 21<sup>st</sup> century – NOAA's Strategic Plan: Updated for FY2006-FY2011*. [Available online at [http://www.ppi.noaa.gov/pdfs/STRATEGIC%20PLAN/Strategic\\_Plan\\_2006\\_FINAL\\_04282005.pdf](http://www.ppi.noaa.gov/pdfs/STRATEGIC%20PLAN/Strategic_Plan_2006_FINAL_04282005.pdf).]

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National Weather Service, 2005b: *National Weather Service Strategic Plan for 2005-2010: Working Together to Save Lives*. [Available online at [http://www.weather.gov/sp/NWS\\_strategic\\_plan\\_01-03-05.pdf](http://www.weather.gov/sp/NWS_strategic_plan_01-03-05.pdf).]

National Weather Service, 2007: *Graphical Forecast for Aviation (GFA)—Statement of Need*. OSIP 07-006. [Available online at <https://osip.nws.noaa.gov>.]